

REMARKS

INTERVIEW:

A telephonic interview was conducted on July 21, 2004. The participants were Examiner Lewis A. Bullock, Jr., David Stringer-Calvert and Carina M. Tan. During the interview, Applicants argued that the prior art teachings of *Bayardo* did not disclose a component registry as claimed in Applicants' independent claims because applicants' component registry is distinct from the bridge agent. The Examiner indicated that Applicants' independent claims should be clarified to state that the component registry is physically independent from the bridge agent. An agreement as to all the claims were reached during a subsequent telephone call to the Examiner on July 30, 2004.

The Examiner is thanked for the performance of a thorough search. In order to improve clarity, Claims 1, 39 and 40 have been amended to explicitly state what was previously implied.

Each issue raised in the Office Action mailed April 20, 2004 is addressed hereinafter. It is respectfully submitted that the rejection of the Claims is over come for reasons given hereafter.

SUMMARY OF REJECTIONS/OBJECTIONS

In the Office Action, Claims 1, 3, 5, 6, 15-17, 39 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by "InfoSleuth: Agent-Based Semantic Integration of Information in Open and Dynamic Environments" by *Bayardo* et al.

Claims 2, 14 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over "InfoSleuth: Agent-Based Semantic Integration of Information in Open and Dynamic Environments" by *Bayardo et al.* in view of "Information Brokering in an Agent Architecture" by Martin et al.

Claims 7-10, 18-21 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over "InfoSleuth: Agent-Based Semantic Integration of Information in Open and Dynamic Environments" by *Bayardo et al.*

CLAIMS 1, 2-10

Independent Claim 1, as amended, is reproduced below:

- "1. A computer-implemented method for communication and cooperative task completion between a community of distributed electronic agents communicating using a dynamically expandable interagent communication language ("ICL") and at least one other distributed component system, the other distributed component system communicating using a protocol incompatible with the ICL, the method comprising the acts of:
- a) receiving by a bridge agent a description of functional capabilities of components of the other distributed component system from a component registry of the other distributed component system, **wherein the component registry is physically independent from the bridge agent**;
 - b) translating the functional capabilities of components received in step (a) from the protocol of the other distributed component system into the ICL, to create a translated description;
 - c) adding to a facilitator registry of the community of distributed agents the translated description, wherein the facilitator registry is distinct from the component registry;
 - d) responsive to a request for service to the community of distributed agents, delegating an ICL sub-goal request to the bridge agent;
 - e) translating at the bridge agent the delegated ICL sub-goal request into the incompatible protocol of the other distributed system, to create a translated request; and
 - f) invoking one or more components of the other distributed component system using the translated request."

Applicants' Claim 1, as amended, requires a component registry that is

physically independent from a bridge agent and is distinct from a facilitator registry. In the Office Action, it is stated that *Bayardo* teaches the distinct registries of Claim 1. The Office Action states that *Bayardo* teaches a component registry because “there exists another registry within the Resource Agent...”

It is respectfully submitted that *Bayardo* does not teach another registry (i.e., a component registry). Even assuming, *in arguendo*, that there exists another registry in *Bayardo*’s Resource Agent, the component registry of the other distributed component system is **physically independent from the bridge agent** as required by Applicants’ Claim 1.

In the Office Action, it is argued that the registry within *Bayardo*’s Resource Agent reads on the bridge agent. Even if such an argument is accepted, Claim 1 requires that the component registry be physically independent from the bridge agent. Thus, *Bayardo*’s Resource Agent is different from Applicants’ component registry. Therefore, Claim 1 is patentable because neither *Bayardo* nor *Martin*, taken alone or in combination, disclose or in any way suggest the limitations of Applicants’ Claim 1.

Claims 2-10, either directly or indirectly, depend from Claim 1 and include all the limitations of Claim 1. Therefore, Claims 2-10 are allowable for at least the reasons provided herein with respect to Claim 1. Furthermore, it is respectfully submitted that Claims 2-10 recite additional features that independently render Claims 2-10 patentable over *Bayardo* and *Martin*, either taken alone or in combination.

CLAIMS 39, 14-21 and 40, 25-28, 41

Independent Claims 39 and 40, as amended, contains limitations similar to those of amended Claim 1.

Claim 39, as amended, is reproduced in part below:

“a) receiving by a bridge agent a description of functional capabilities of components of the other distributed component system from a component registry;
b) translating the functional capabilities of components received in step (a) from the protocol of the other distributed computing system into the ICL, to create a translated description;
c) adding to a facilitator registry of the community of distributed agents the translated description, **wherein the facilitator registry is physically independent from the component registry;**”

Claim 40, as amended, is reproduced in part below:

a plurality of electronic agents capable of communicating in the ICL, at least one of the agents being a bridge agent capable of translating between the ICL and the protocol understood by the other distributed component system, and further capable of translating a description of functional capabilities of components of the other distributed component system registered in a component registry; and

a facilitator capable of receiving from the bridge agent, in the ICL format, the translated description of functional capabilities of the components of the other distributed component system and registering the translated description of the functional capabilities in a facilitator registry, the facilitator further capable of receiving a service request in the ICL and in response to the service request, determining a sub-goal request necessary to accomplish the service request, and delegating the sub-goal request, in the ICL, to the bridge agent based upon a match between the sub-goal request and the functional capabilities registered in the facilitator registry, wherein the bridge agent will translate the ICL request into the protocol of the other distributed component system to invoke at least one of the components of the other distributed component system and **wherein the component registry is physically independent from the facilitator registry.**

Therefore, Claims 39 and 40 are allowable for at least the reasons provided herein with respect to Claim 1. Claims 14-21, either directly or indirectly, depend from Claim 39 and include all the limitations of Claim 39, and therefore are allowable for at

least the reasons provided herein with respect to Claim 39. Furthermore, it is respectfully submitted that Claims 14-21 recite additional features that independently render Claims 14-21, and 23 patentable over *Bayardo*, either taken alone or in combination with *Martin*.

Claim 25-28, and 41, either directly or indirectly, depend from Claim 40 and include all the limitations of Claim 40, and therefore are allowable for at least the reasons provided herein with respect to Claim 40.

Furthermore, it is respectfully submitted that Claims 25-28, and 41 recite additional features that independently render Claims 25-28, and 41 patentable over *Bayardo* and *Martin*, either taken alone or in combination.

CONCLUSION


For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned at (650) 838-4311.

The Commissioner is authorized to charge any fees due to Applicants' Deposit Account No. 50-2207.

Respectfully submitted,
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